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ABSTRACT

Miscue analysis is a monitoring device that makes it possible to view the manner in which a student is processing a given reading selection; therefore, it is more appropriate than standardized reading tests for measuring the strengths and weaknesses of nontraditional students. Miscue analysis assumes that reading is a language process and that every normal individual who approaches the reading task is a competent user of the language of his or her speech community. The extent to which the experiences and oral language of the student fall short of, differ from, or are in dissynchrony with the printed page is the degree to which difficulty will be experienced. Semantic and syntactic information cues can be used by the reader to narrow the possibilities of what is coming. The reader may also use information from the printed letters themselves in order to determine the exact word used. The Reading Miscue Inventory assesses how well a reader uses these cues in his or her oral reading by analyzing each miscue the reader makes. The inventory determines to what extent comprehension is affected by the reader's miscues, and how well the reader uses his or her knowledge of grammatical relationships when reading. (HOD)

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MISCUE ANALYSIS: A NEEDED DIAGNOSTIC DIMENSION FOR NON-TRADITIONAL STUDENTS

Ernest B. Nieratka

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The Problem

A number of university personnel have expressed the feeling that non-traditional students have serious reading deficiencies which adversely affect their chances of success at the university level. Universities have claimed that students were simply not prepared for the higher education experience; equal opportunity advocates have pointed out that the universities were not prepared to serve a broader range of clients and hence were not fulfilling their missions as tax supported institutions. In any event, there is little dispute that the students evidence less in preparation than the universities would like.

The literate individual knows that literacy is a product of much reading--hundreds of books and articles. Ideally, non-traditional students should have had this exposure in their schools and homes. They have not had this advantage due to social, economic, and political forces both within and outside their communities. Many alternatives have been proposed for this situation; remediation has been a frequent solution. As Robert Carter has suggested, typical remediation is a "non-sense position."[1]

[1]Robert L. Carter, Systematic Thinking Curriculum, Unpublished Text, Copyright 1971, 2.

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The student pulled from certain classes or experiences misses the work involved in those situations and hence falls further and further behind. The buck has to stop somewhere. If we are to assist students in succeeding at the university, we must locate and utilize support methods which reflect more insight. Miscue analysis is one such tool.[2] Miscue analysis is a monitoring device that makes it possible to view the manner in which a student is processing a given reading selection. Feedback can then be given to the student, and strategies can be suggested.[3]

Monitoring: Standardized and Informal Reading Tests

Arguments have been made regarding the inappropriateness of standardized reading tests for measuring the strengths and weaknesses of non-traditional students. That issue will not be addressed. Regardless of their suitability, standardized reading exams classify individuals by rank but do not provide insights as to why a particular student answered a test item correctly or incorrectly--how he was processing print. It is true that standardized tests can serve a useful function as a screening device. For example, an individual who scores at the fifth stanine or above on a

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[2]"Miscue" is a term coined by Kenneth Goodman to denote a deviation from the text. This terminology has been suggested to replace the word "error" with a description that better qualifies the phenomona. In his view, discrepancies between what we might observe in reading behavior and what we expect are caused by the same sets of factors that enable the reader to process material where miscues do not occur.

[3]For a critical review of a miscue diagnostic instrument the Reading Miscue Inventory by Carolyn Burke and Yetta Goodman, see John W. Miller "An Interdisciplinary View of Reading as a Qualitative Process," Reading Improvement, Vol. 10, No. 2 (Fall, 1973), 40-45.

standardized reading measure will probably not fail at the university because of reading deficiencies. However, for some students, particularly for those below the fifth stanine, discriminations become weak, even nonexistent. For example, a well-known and respected exam ranks the following two readers labeled X and Y one percentile point apart; the difference is based on one correct answer. Both readers are eighteen, are high school seniors, and are enrolled as college freshmen under the auspices of a Special Services Program. Despite the proximity of the two standardized scores, a close look at both students' oral reading using miscue analysis indicates great differences in their respective abilities in gaining meaning from print.

The selected passages below are excerpted from an informal test taken from Gordon Parks', A Choice of Weapons.[4] The action has been collapsed so that a complete story is told in the short test selection. The passages have also been edited so that they reflect increasing levels of difficulty ranging from approximately third grade level to college level. The first passage is approximately third grade level, the second, fifth grade level, and the last college level.

The markings used on the reading passages are the conventional symbols used for informal tests. Reader substitutions are written above the correlating words in the text. Words omitted are circled. Inserted words are marked with a carat (∧) at the point at which they occur and are written above the line of text. Reversed letters or words are marked with

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[4]This material has been used with permission of the publishers, Harper and Row.

the editor's manuscript symbol (⌒). Words or portions of words that are repeated are underlined, and the cause is abbreviated and circled: (c)____ for corrected, (uc) for unsuccessful correction, (ac) for abandoned correct form and (a) for an anticipatory regression.[5]

Passage 1

Reader X
0104 One of the men stuck one (a) into (c) my hand. "Here, boy,"
0105 he said. "Tell your mammy and pappy to vote like (a) this
0106 thing says."

Reader Y
0104 One of the men struck stuck one into my hand. "Here, boy,"
0105 he said. "Tell your mammy mama and pappy your papa to vote (a) like this
0106 thing says said."

Reader X has made two regressions (marked (a)____) in passage 1. He also has deleted "to" resulting in a grammatically and semantically sound sentence. Reader Y has substituted the word "struck" for "stuck," "mama" for "mammy," "papa" for "pappy" and "said" for "says." A regression or repetition of "like" and the insertion of "your" has also been discerned. Although there were five miscues (deviations from the text) committed by Reader Y, a reading of the sentence which includes the reader's miscues results in a grammatically and semantically sound structure, although slightly shifted in meaning from the original.

Passage 2

X
0133 They seemed to represent all the injuries and failures
0134 of to my whole life. I suffered with all other the Negroes--

[5]The reader repeats (a) word(s) or portion of a word in anticipation of upcoming difficulty.

X 0135 even those locked up long ago in slave ships from Africa.

Y 0133 They seemed to represent all the injuries and failures
0134 of my whole life. I suffered with all other Negroes--
0135 even those locked up long ago in slave ships from Africa.

In the second passage, Reader X makes three word substitutions and inserts "the" in line 0135. A reading of this passage with miscues included makes sense, with the "to" for "of" substitution constituting the major shift in meaning.

Reader Y's reading takes on a decidedly different flavor in passage 2. Neither sentence can be read meaningfully with the miscues that were made.

Passage 3

X 0169 of prejudice and hate. My oppression was shared by
0170 millions, for economics, politics and religion had
0171 driven wedges between human interaction in many ways and
0172 on many levels. And that was undoubtedly crucial: Without
0173 interaction there could be no communication and without
0174 communication there could never be acceptance let alone
0175 tolerance.

Y 0169 of prejudice and hate. My oppression was shared by
0170 millions, for economics, politics and religion had
0171 driven wedges between human interaction in many ways and
0172 on many levels. And that was undoubtedly crucial: Without

Y 0173 interaction there could be no communication and without
0174 communication there could never be acceptance let alone
0175 tolerance.

A readily detectable difference in Reader X's oral reading of passage 3 is that it has slowed considerably. Four miscues were noted. A major meaning difference can be posited with the substitution of "inter reaction" for "interaction." With this exception, reading the rest of passage 3 as the student read it results in a meaningful message.

Reader Y has also switched strategies in passage 3. The deletion of four words and the quality of substitution miscues both point out that the student is no longer processing for meaning. It might be mentioned again that a standardized exam ranks readers X and Y one percentile apart. An analysis of the students' retelling of the story demonstrates that Reader Y retained no information from the text beyond a point immediately prior to passage 2, but that Reader X had very adequate comprehension of the story with the exception of the last passage. Utilization of the Reading Miscue Inventory (RMI) to code the miscues according to different questions can determine how the reader is processing the reading material.

Reading: Assumptions

The kinds of insights that miscue analysis can provide are the result of looking at reading in a very different way than has been traditionally the case. Until certain recent discoveries in pyscholinguistics, reading diagnosis consisted primarily of simple error tally--for both standardized

and informal tests. Error count for a standardized exam provided a score which measured the individual's standing within a normal distribution. In order to assure this distribution, items were discarded if they did not contribute to a normal curve. Error count on informal tests determined the frustration, instructional or independent reading level of the testee. For example, if a student made ten oral reading errors in a passage of one hundred words, it was concluded that he was "frustrated" by the passage and it was too difficult for him. If five oral reading errors were made, then the level of difficulty found in the passage was an appropriate level for instruction. Two or less reading errors meant the student could handle this level of material independently. Decisions regarding placement were arbitrarily based on the quantity, not the quality, of the errors.

Reading teachers have traditionally assumed that a human being effectively and efficiently processes print by assigning a set of sounds to an unknown word by means of a set of pre-learned rules. If one is efficient in this procedure, then reading should be easy. The task would thus appear to be a simple matter of mastering and applying a set of rules. However, rigorous research at the Southwest Regional Laboratory (1969), has posited the existence of 166 distinct letter-sound correspondence rules with 600 exceptions to account for the 5,000 most common words in the English Language.[6] Moreover, traditional theory implies that a reader must have control over another set of rules

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[6]This research is reported in Frank Smith, Understanding Reading: A Psycholinguistic Analysis of Reading and Learning to Read, (New York: Holt Rinehart), 1971.

governing when the letter sound correspondence rules are to be applied.

Based on these traditional assumptions, testing becomes a matter of evaluating comprehension and evaluating a reader's skill in applying letter-sound rules. Reading problems are typically thought of as involving either understanding or decoding of the material; experts have failed to recognize the trade-off that exists between the two. Implicit in the nature of miscue analysis, however, is a very different view of the reading process, and hence a different concept of evaluation. Miscue analysis assumes that reading is a language process and that every normal individual who approaches the reading task is a competent user of the language of his speech community. Because he is familiar with the patterns of his language, he is able to predict and confirm, reasonably well, words that appear in a reading selection which is in consonance with his scope of experience. Any English-speaking reader could use his knowledge of language and of the world to make a meaningful prediction as to the missing words in the following sentence.

John went _____ _____ _____ to buy some bread and milk.

This kind of built-in strategy is often short-circuited by teachers who focus the student's attention at the letter level rather than at the meaning level. A student who depends more on letter-sound correspondences than on his own language competence may come to view reading as a task involving the recognition of words rather than as a process of gaining meaning. As a result, his reading substitutions will tend to look and sound like the words in the text, but make no sense in the context of the sentence or story.

This is not to suggest that letter-sound correspondences should not be examined or that grapheme-phoneme correspondence is a wholly unproductive strategy in the instructional setting. However, most of the students the authors have analyzed thus far have good control of this skill (their decoding approaches automaticity)[7] but use it to the point where it is no longer helpful.

The fact that a reader has mastered a set of letter-sound correspondences and can pronounce almost any word encountered is no guaranttee that he can make sense out of what he reads. To understand material, a reader must have referents for a majority of the lexical items and must have at least a receptive knowledge of the syntactic structures of the written material. He must also possess certain information and concepts which the author assumes that the reader has. If this is not the case, the level of meaning gained will be very low.

There is a direct trade-off between reading efficiency and prior knowledge. The extent to which the experiences and oral language of the student fall short of, differ from, or are in disynchrony with the printed page is the degree to which difficulty will be experienced. Sensitivity to this matter has gained some attention in English classes in which an instructor explains figurative language. However, the language of most academic disciplines is often figurative in nature but is unfortunately not treated as such and is seldom explained. Discrepancies often attributed to

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[7]Automaticity has been defined by LaBerge and Samuels as the level of skill manifestation where the focus of attention can be directed elsewhere. LaBerge, D. and Samuels, S. J. "Toward a Theory of Automatic Information Processing in Reading," Technical Report No. 3, Minnesota Reading Research Project, University of Minnesota, 1973.

a lack of reading ability should be recategorized as unfamiliarity with the extended language of academe.

Content Area Jargon is a Problem

In addition to the general problem of academic language, each discipline has its own particular lexicon, commonly called jargon. Let us cite an example to illustrate how all readers are potentially illiterate in a certain discipline. A chemist faced with the following ad could find himself at a total loss: "Dual overhead chain driven cams, blue-printed and balanced, Konis, Michelins, Webers, Abarth, brg. $2,000 firm."

Our chemist might be able to pronounce each word accurately but still not understand the content of the ad. Comprehension of the specialized lexicon would require the following information:

1. that a cam shaft performs certain operations in an automobile engine and that an overhead cam differs from a cam that utilizes pushrods to operate the valves
2. that "blue-printed and balanced" refers to the special treatment given an engine that sets it precisely to specifications
3. that Michelin is the brand name of a tire
4. that Koni is the brand name of an expensive shock absorber
5. that Weber is the brand name of a carburetor
6. that Abarth is the brand name of a low restriction exhaust system
7. that "brg." is the conventional abbreviation for the paint color British racing green
8. that $2,000 firm means the owner wants $2,000 and will not negotiate the price

Even the preceding explanation may prove to be difficult for our chemist--or for you if you do not have the background to understand the words in the explanation.

The same situation may exist in the university classroom. Certain concepts and their attending descriptive language are assumed to exist in the competence of the students This may or may not be the case. Traditionally, readings are assigned prior to a lecture on a given topic; the lecture is then used to clarify, extend and add variety to the reading matter.

Experience has shown many instructors that the way to address a particularly difficult book or section of text is to present a lead-in lecture which introduces the difficult concepts and unfamiliar vocabulary. Students having prior contact (even if peripheral) with terms are much better prepared to deal with printed matter because they are able to predict the sequence of information.

Explanation of the Reading Analysis

As has been pointed out, the native speaker uses his language competense when he reads. For example, in the sentence, "Because he likes dogs, on his birthday he was given an Afghan," the reader can use cues in the sentence to predict the meaning of Afghan.

The meanings of the surrounding words provide one type of clue to the reader. The word "dogs" is the best semantic cue in the prediction of "Afghan." On the basis of the semantic information which this word alone provides, a reader could reasonably anticipate the appearance of "beagle," "collie," or "puppy" in the sentence.

A second type of cue which is available to the reader is syntactic information. Using his knowledge of the structure of his language, the reader can predict and confirm the occurrence of a word belonging to a specific class of words (e.g., nouns, verbs, prepositions, etc.) in a specific context. For example, the occurrence of a noun (such as "Afghan") following the passive of the verb ("give") and an article ("an") is highly predictable. The use of semantic and syntactic cues is not by any means a necessarily conscious or deliberate process. Predicting what is coming is a natural language process which occurs so rapidly that the reader is unaware of the process itself.

While semantic and syntactic information is used to narrow down the possibilities of what is coming, the reader can use information from the printed letter themselves in order to determine the exact word used. He may compare the letters in one word to letters in a word he already knows (making use of the graphic similarity of the two words in order to identify the word in the text) or he may assign a sound to each letter or letter combination and thus identify the word. The role of sound-letter correspondence can now be put in perspective. Graphic information can be effectively used, not as the basis of the initial narrowing down of possibilities, but as a refinement of the predictions which are based on semantic and syntactic cues.

The Reading Miscue Inventory assesses how well a reader uses these cues in his oral reading by analyzing each miscue which the reader makes. Each miscue (including substitutions, omissions, insertions, and reversals)

is entered on the Reading Miscue Inventory Coding Sheet and classified in each of nine categories.

In order to determine how well the reader is able to use letter-sound correspondences, each substituion is classified as to its graphic and sound similarity to the word in the text (the expected response). It is also determined whether or not the substitution serves the same grammatical function as the word in the text.

Miscue A. I stood there for several minutes moments.

Miscue B. My sister, concerned about my unhappiness, injured inquired of my needs and tried to make things pleasant.

Miscues A and B both illustrate the reader's awareness of sound-letter correspondences and grammatical function. Both substitutions share graphic and phonological features with the expected response and they both serve the same grammatical function as the expected response. It is obvious from the above examples, however, that the analysis must go further, for Miscue A shares semantic features with the expected response and results in a meaningful sentence, while Miscue B does not.

All types of miscues are also rated in three other categories: grammatical acceptability, semantic acceptability, and meaning change. It is here that Miscues A and B will be differentiated. The phrase "for several minutes" is grammatical, makes sense, and does not differ substantially in meaning from the phrase "for several moments." The phrase "injured of my needs" is grammatical, but does not make sense, and represents a substantial shift in the intended meaning.

Based on these last three categories and determination of miscue correction, the most important decisions in the analysis are made. These decisions are: (1) to what extent comprehension is affected by the reader's miscues, and (2) how well the reader uses his knowledge of grammatical relationships when reading. Significant miscues (such as Miscue B) which result in a loss of comprehension and disruption of the grammatical relationships within a sentence are considered low-quality miscues. These miscues should be corrected by the reader if he is using his knowledge of language to gain meaning from the text as he reads. High quality miscues (such as Miscue A), which do not result in comprehension loss or disruption of grammatical relationships, need not be corrected; indeed, the most proficient readers often make high quality miscues. A proficient reader is less likely to correct a high quality miscue than one that results in loss of meaning.

In judging the quality of miscues, dialect differences must be taken into account. One of the categories, Dialect, is marked when the reader's miscue can be attributed to a difference between the reader's dialect and the author's dialect. The reader's dialect may account for his reading of "men" as "mens" [menz], "with" as "wif" [wif] and "were" as "was" [wuz], for example. Since these substitutions do not result in a loss of meaning, but, on the contrary, are evidence that the reader has understood the text,[8] miscues due solely to dialect variation are among the "high quality" miscues.

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[8]A reader who responds in his own dialect to a text in a divergent dialect is definitely not simply mouthing the sounds indicated by the text; he is actively recognizing the meanings of the printed word and translating them into an equivalent form in his own dialect.

The second aspect of the Reading Miscue Inventory is the retelling of the selection which has been read. The retelling serves as a comprehension check. Since it is possible for a reader to read orally quite well and yet not understand what he has read, the retelling as a measure of reading comprehension is a necessary part of the reading analysis.

An oral reading and retelling has an inherent weakness. First, it forces the reader to attend to an oral presentation as opposed to focusing all attention on meaning. In order to check this possibility, the student is asked to read another selection silently and give an oral retelling. However, reading comprehension is a function of both the reader's competence and the nature of the reading selection. A mechanic may therefore do well with an article entitled, "Race-Tuning Your Street Rod," and very badly indeed with "Thrombosis in Indian Elephants."

Secondly, though the reader may have understood the passage, he may chose to provide abbreviated or fragmented information. It is also possible that he may lose some of the information in a memory bottleneck or cannot retrieve the information from long term memory. A general line of questioning by the tester is used to elicit further responses from the students. Questioning sessions have typically yielded a surprising number of items which the student has comprehended but which he cannot retrieve without an incisive mnemonic.

The oral retelling can give some insights into the nature of the reader's processing procedure. An in-depth analysis of the retelling can also give some evidence about the language competence of the testee (on this task)

regarding length of thought unit, ease of expression, occurrence of dialect features, and the grammatical structures employed in retelling the story.

Conclusion

The influx of non-traditional students into the various colleges and universities around the country has been heralded as a triumph of social change and condemned as misguided optimism. In any event, the impact has been significant. Indeed, the nature of instruction and the responsibilities of faculty are resultant issues. In most cases, universities and faculties remain committed to the notion of broadening access to higher education and yet are wedded to practices that turn the open door policy into a revolving door reality. In order to address the poor persistance rate of non-traditional students, student support services must be improved. Within the support service structure, one need is to improve the quality of reading diagnosis. For non-traditional students, Miscue Analysis has demonstrated its usefulness.